Remarks

In view of the foregoing amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

Because the U.S. Patent and Trademark Office ("PTO") retracted its prior identification of allowable subject matter, applicant has re-introduced the subject of prior claim 1 (from the amendment dated May 31, 2005) as new claim 48. Claims 2-5, 10, 13, 16, 17, 24, 32, 39, 42, and 44-46 have been amended to reflect their dependence on new claim 48. Claim 26 has been amended, without prejudice, to strike the language "gastrointestinal cancer." Claims 8, 40, and 41 have been cancelled without prejudice. Claims 2-13, 15-17, 24-39, 42, and 44-48 are pending.

Applicants hereby submit a request pursuant to 37 C.F.R. § 1.48(b) for the deletion of Damon Matthew Goodby Tilbrook and Gerry Daly as inventors. Due to the amendment of claim 26 and the cancellation of claims 40 and 41, these individuals are no longer inventors of the invention being claimed. Graham J. H. Melrose and Andrew James Huxham are the inventors of the remaining subject matter.

The rejection of claims 2-13, 15-17, and 44-47 under 35 U.S.C. §§ 102(b), 103(a) as anticipated by, or alternatively for obviousness over, PCT Publ. No. WO 00/03723 to Melrose et al. ("Melrose I") is respectfully traversed.

With regard to claims 48, 3-7, 9, 10, and 13, Melrose I is not available as prior art under 35 U.S.C. § 102. For the reasons already of record (see amendment filed February 16, 2004), the subject matter of these claims is entitled to a priority date of February 16, 2000. Melrose I was not published until January 27, 2000, which is less than one year before the entitled priority filing date. Thus, Melrose I is not available as prior art under 35 U.S.C. § 102(b). Moreover, because the inventorship on Melrose I is the same as the inventorship of the present application, Melrose I is not available as prior art under 35 U.S.C. § 102(a). Because Melrose I is not at all available as prior art for claims 48, 3-7, 9, 10, and 13, the rejection of these claims is improper and should be withdrawn.

With regard to claim 44, applicants submit that the recited property is an inherent feature of the presently claimed derivative, which is disclosed in parent application PCT/AU00/00107. The PTO has asserted as much in the outstanding office action at page 8. Therefore, this claim is also entitled to the February 16, 2000, filing

date. Consequently, Melrose I is not available as prior art against claim 44 for the same reasons noted above.

With regard to claims 2, 11, 12, 15-17, and 45-47, applicants submit that Melrose I fails to anticipate the claimed subject and, further, would not have rendered the subject matter obvious at the time the invention was made.

As to claim 2, the PTO has taken the position that Melrose I teaches the claimed product having the recited hemiacetal-protected carbonyl groups (citing page 2, lines 10-25 of Melrose I). As explained in the amendment dated February 16, 2004, the hemiacetal forms of the acrolein polymer are groups present in the polymer backbone; which is precisely the hemiacetal form described at page 2, lines 10-25 of Melrose I. In sharp contrast, the presently claimed antimicrobial composition is derived from poly(2-propenal, 2-propenoic acid) and results from the formation of protected carbonyl groups at the *pendant* aldehyde and/or carboxyl groups present in the starting acrolein polymer. Such derivatives include *pendant* acetal or hemiacetal groups as the carbonyl-protecting groups, which are distinct of the hemiacetal form present in the polymer backbone. Thus, Melrose I fails to teach or suggest this limitation, either explicitly or inherently. The rejection of claim 2 should therefore be withdrawn.

As to claims 11, 12, 15-17, 46, and 47, applicants submit that Melrose I neither teaches nor suggests the claimed subject matter. For the reasons of record, asserted in the amendment dated May 31, 2005, applicants submit that Melrose I does not inherently teach the presently claimed poly(2-propenal, 2-propenoic acid) derivative that is characterized by protected carbonyl groups. Melrose I relates simply to the formation of a stable poly(2-propenal, 2-propenoic acid) formulation, not the presently claimed derivative. Even if, assuming *arguendo,* Melrose I does inherently teach formation of the presently claimed carbonyl-protected derivative in Example 8 (which applicant does not admit), it is abundantly clear that the presence of such a derivative was not appreciated because Example 8 of Melrose I describes nothing more than the formulation and testing of sunscreen compositions (i.e., there was no analysis of the compositions to determine whether the presently claimed carbonyl-protected derivative had formed). Thus, while Melrose I may teach certain uses for the starting polymer, Melrose I cannot teach or suggest anything about the use of the presently claimed carbonyl-protected derivative or a composition containing the same. That is because the reference does not evidence awareness that the carbonyl-protected derivative had even formed, let alone that the carbonyl-protected derivative possesses a particular utility. Consequently, Melrose I in

no way provides any motivation for the person of ordinary skill to have used the sunscreen formulations of Example 8 (or the presently claimed carbonyl-protected derivative) in a gastrointestinal composition as recited in claim 11, in the form of a feed additive or drinking water additive as recited in claims 12, 15, 46, and 47, or in combination with other antimicrobial or chemotherapeutic agents as recited in claims 16 and 17.

As to claim 45, it should be appreciated that Melrose I nowhere teaches or suggests forming the presently claimed derivative using a phenol. Example 8 of Melrose I, the only portion of Melrose I relied upon as inherently teaching the presently claimed derivative, recites only the use of PEG 1000. The PTO has failed to demonstrate that Melrose I would have taught or suggested forming the presently claimed derivative using a phenol. The mere fact that Melrose I teaches using phenol as an additive to the stable formulation does not mean Melrose I suggests reacting poly(2-propenal, 2-propenoic acid) with phenol to obtain the presently claimed carbonyl-protected derivative.

For all these reasons, the rejection of claims 2-13, 15-17, and 44-47 over Melrose is improper and should be withdrawn.

The rejection of claims 24-28 and 30-42 under 35 U.S.C. § 103(a) for obviousness over Melrose I is respectfully traversed. For substantially the same reasons noted above, the person of ordinary skill in the art would not have appreciated that Example 8 of Melrose I inherently produced the presently claimed carbonyl-protected derivative of poly(2-propenal, 2-propenoic acid). Hence, the person of ordinary skill in the art would have no expectation that the sunscreen formulation prepared in Example 8 of Melrose I would be useful for treating gastrointestinal disease. As the PTO has acknowledged at page 3 of the outstanding office action, Melrose I otherwise relates to forming stable formulations of poly(2-propenal, 2-propenoic acid) but not the presently claimed derivative thereof. Because the person of ordinary skill in the art could not appreciate *a priori* the properties of the newly formed derivative of the present invention, the uses recited in claims 24-28 and 30-42 would not have been obvious over the reported use of the parent polymer. For this reason, the rejection of claims 24-28 and 30-42 is improper and should be withdrawn.

The rejection of claims 2-11, 44, and 45 under 35 U.S.C. § 102(a) as anticipated by PCT Publ. No. WO 01/060874 to Melrose et al. ("Melrose II") is respectfully traversed.

Melrose II is the priority application and, as noted above, claims 3-7, 9, 10, and 44 are entitled to priority benefit. The rejection of these claims must therefore be withdrawn.

With regard to claim 2, and with reference to the prior description of the structural distinction between hemiacetal forms of the polymer backbone (i.e., prior art poly(2-propenal, 2-propenoic acid) versus derivatives thereof containing protected carbonyl groups that contain pendant hemiacetal protecting groups), Melrose II does not explicitly recite the hemiacetal protecting group. To the extent the PTO asserts this feature is inherently disclosed in Melrose II, then applicants submit that claim 2 is also entitled to the priority filing date of Melrose II. To the extent that the PTO asserts that this structural limitation would have been obvious, applicants submit that the PTO has failed to demonstrate that this structural feature would have been obvious, because the PTO has confused the backbone hemi-acetal group with the pendant hemiacetal protecting group as claimed.

With regard to claim 11, applicants submit that the PTO has failed to demonstrate where Melrose II teaches or suggests any of the recited carriers.

With regard to claim 45, applicants submit that the PTO has failed to demonstrate where Melrose II teaches or suggests using phenol as the organic compound that is reacted with the starting polymer to form the recited carbonyl-protected derivative.

For all these reasons, the rejection of claims 2-11, 44, and 45 over Melrose II is improper and should be withdrawn.

In view of all of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: August 30, 2006

/Edwin V. Merkel/
Edwin V. Merkel
Registration No. 40,087

NIXON PEABODY LLP
Clinton Square, P.O. Box 31051
Rochester, New York 14603-1051
Telephone: (585) 263-1128
Facsimile: (585) 263-1600